

Tying Up Tie-down Loose Ends

Dear Half-Mast,

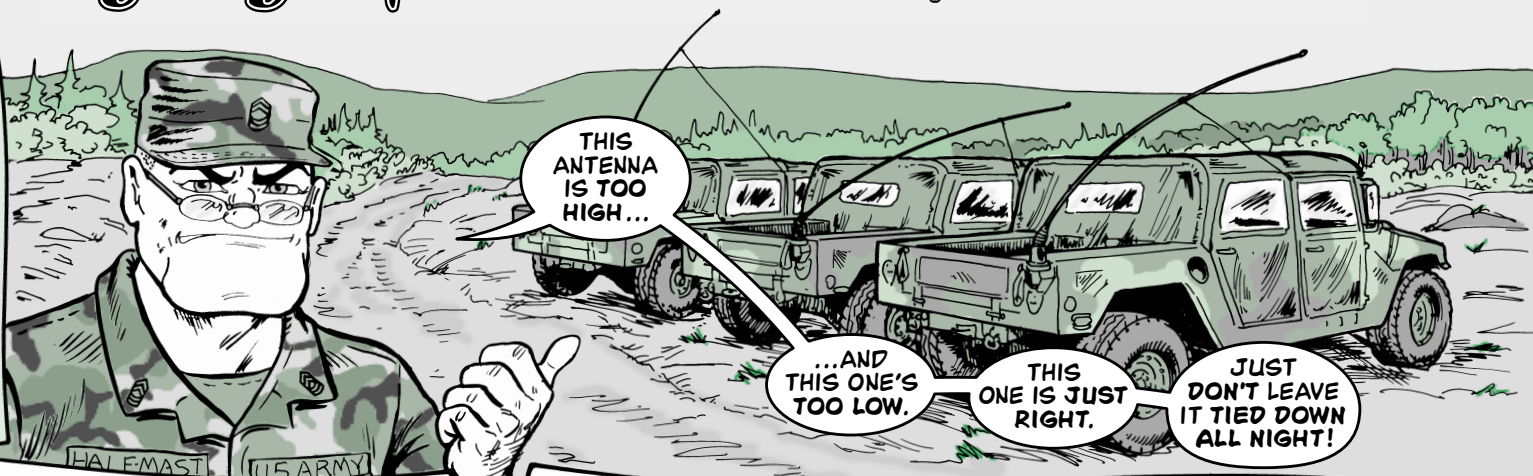
What's the story on whip antennas?
Do they always have to be tied down when the vehicle is moving?

And, if so, is there a minimum height to which you tie down an antenna? I've seen them as low as eye level and so high they looked like they weren't tied down at all.

Do we leave them tied down when the vehicle is not moving?

Finally, is a tip cap mandatory?

SPC K. W.



Dear Specialist K. W.,

Whether your vehicle is packing a SINCGARS or AN/VRC-12-series radio, you need to tie down the whip antenna when you're on the move. Antennas left standing tall can smack into an overhead bridge or tree limb and shatter. Even worse, they could strike a power line.

Tie down the antenna at a 45–60° angle to the ground. That's low enough to avoid collisions with most overhead obstacles, but not so low that you risk cracking the antenna sections or the base.

Attach the antenna clip midway between the tip and the base.

Get a tiedown kit for your AS-3900 antenna with NSN 4020-01-341-8795. NSN 4020-00-908-6416 brings a tiedown kit for the AS-1729 antenna.

If your vehicle has more than one antenna, tie them down alongside the vehicle. Never cross them. If you do, the transmitting antenna will feed its signal to the one it's touching. You'll get interference and maybe even damage to your radio's circuits.

When your vehicle is parked for any length of time, like overnight, you should take the antenna out of the clip and let it stand straight up.

That relieves tension on the base spring. A base spring kept under tension all the time will weaken.

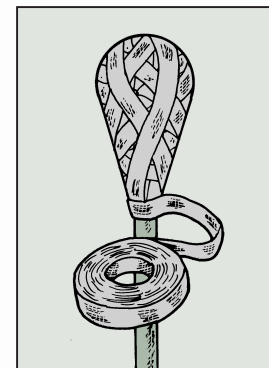
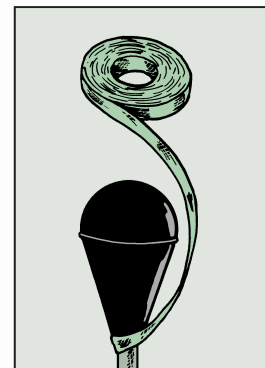
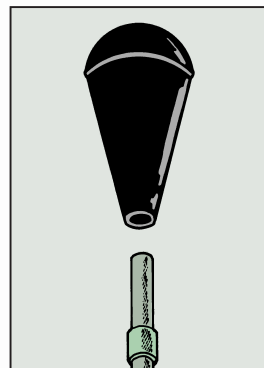
Also, an upright antenna keeps the base spring coils close together, which helps keep out moisture and dirt. A tied-down antenna has its spring coils spread open making it easier for dirt and moisture to get inside and damage the base and the RF cable.

Finally, a tip cap should always be used. The risk of injury is too great without one. Here's how to make sure the tip cap, NSN 5820-00-437-2353, stays on tight.

Wrap 1/2-in pressure tape, NSN 7510-00-582-4771, six times around the whip two inches from the top.

Push the tip cap down over the tape. Starting just below the bottom of the cap, wrap the top antenna element and the cap with the 1/2-in tape. Cover it completely.

Finish up by covering the cap with 3/4-in electrical tape, NSN 5970-00-419-4291.



The pressure-sensitive tape holds the two shells of the cap together, cushions the cap impact and holds it firmly on the top element. The electrical tape protects against sunlight and moisture.

Replace the tape when it becomes badly scuffed or worn out.

Half-Mast